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🎓 Education

Sep.2016 - EXP. Fall 2023	Oregon State University , Oregon, U.S	Ph.D student in Computer Science · Computer Vision
Sep.2010- Mar.2013	Xidian University , Xi'an, China	M.S in Computer Science · Artificial Intelligence
Sep.2006- Jun.2010	Xidian University , Xi'an, China	B.S. in Computer Application Technology

☰ Publications

- > **an anonymous submission on Vision-Language understanding**, submitted to WACV 2024
- > **Maximal Cliques on Multi-Frame Proposal Graph for Unsupervised Video Object Segmentation**, **J.Yuan**, J.Patravali, H.Nguyen, et al. arXiv 2023
- > **Robust high-throughput phenotyping with deep segmentation enabled by a web-based annotator**, **J.Yuan**, D.Kaur, Z.Zhou, et al. Plant Phenomics 2022
- > **BATMAN : Bilateral Attention Transformer in Motion-Appearance Neighboring Space for Video Object Segmentation**, Y.Yu, **J.Yuan**, G.Mittal, F.Li, M.Chen, ECCV 2022(Oral)
- > **GWAS identifies candidate genes controlling adventitious rooting in Populus trichocarpa**, M.Nagle, **J.Yuan**, et al., bioRxiv 2022
- > **Deep Variational Instance Segmentation**, **J.Yuan**, C.Chen, F.Li, NeurIPS 2020
- > **Web-based Annotation tool for Image-based Phenotyping**, **J.Yuan**, Z.Zhou, et al., CVPPP @ CVPR 2019
- > **Multiple-Instance Video Segmentation with Sequence-Specific Object Proposals**, A.Shaban, A.Firl, A.Humayun, **J.Yuan**, X.Wang, et al., The 2017 DAVIS Challenge on Video Object Segmentation-CVPR Workshops, 2017

👛 Experience

Present Sep. 2016	Graduate student Oregon State University, Corvallis, Oregon, U.S <ul style="list-style-type: none">> Research on Unsupervised Video Object Segmentation in the detect-propagate paradigm and achieved the best performance on DAVIS 2020 and state-of-art performance on YouTube-VIS 2019.> Proposed a search-free Instance semantic Segmentation algorithm and developed an end-to-end DNN to predict the instance labels from an image in one step. Evaluated on Pascal VOC 2012 and MSCOCO 2017.> Built perception system for the DARPA Machine Common Sense Project for discovering novel objects of interest from videos> Led to develop high-throughput Phenotype method in collaboration with Forest researchers.
Jun. 2022 Mar. 2022	Research Intern Microsoft Inc, Bellevue, Washington, U.S <ul style="list-style-type: none">> Developed a Semi-supervised Video Object Segmentation algorithm built on motion-appearance space. Achieved state-of-art performance on DAVIS and YouTube-VOS benchmarks.> Developed a Vision-Language understanding algorithm to pre-train a transformer-based VL model using a large-size corpus and then adapt to different VL multimodal tasks and V/L unimodal tasks.
Sep. 2019 Jul. 2019	Software Engineer Intern Uber Technology Inc, Palo Alto, California, U.S <ul style="list-style-type: none">> Developed Image Style Transfer algorithm using Generative Adversarial Network, to augment the data in minor categories and address the data imbalanced problem.> Added the generated data to collected data and run a model for a vision-based research task, it obtained 8% improvement on the minor category without influencing the other categories.
Jun. 2016 Mar. 2014	Algorithm Engineer Kiwi-image Technologies Co, Ltd., Shanghai, China <ul style="list-style-type: none">> Developed algorithm for FRC(Frame Rate Conversion) and OD(Over Drive) used in High-end TV solutions and co-worked with Digital Designers for porting to RTL(Register Transfer Language).> Developed a phase-table algorithm and implemented it as a tool in C#, it improved the efficiency of the timing control analysis of the FRC module on FPGA and Chips over 10X.
Mar. 2014 Apr. 2013	Algorithm Engineer Novatek Co, Ltd., Shanghai, China <ul style="list-style-type: none">> Maintained algorithm for 2d-to-3d, free-3d, and image compression used in TV solution. Created their bit-true C-models for RTL comparison and supported the development of embedded dynamic software used in Chip.

☰ Skills

Deep Learning Frameworks :	PyTorch, Tensorflow, Keras
Programming Languages :	Proficient in C/C++ and Python; Familiar with Matlab, JavaScript, Bash
Others Tools and Languages :	Git, LaTeX, FPGA, RTL